

IN THE CLAIMS

Please cancel claims 1 through 21, and add claims 22 through 42, as set forth below.

1 – 21. (canceled)

22. (new) A projection exposure system operable in a scanning mode along a scanning direction, comprising:

a collector that receives light having a wavelength ≤ 193 nm and illuminates a region in a plane, wherein said plane is defined by a local coordinate system having a y-direction parallel to said scanning direction and an x-direction perpendicular to said scanning direction, wherein said collector comprises:

- (a) a first mirror shell;
- (b) a second mirror shell within said first mirror shell, wherein said first mirror shell and said second mirror shell are substantially rotational symmetric about a common rotational axis; and
- (c) a fastening device for fastening said first mirror shell and said second mirror shell,

wherein said fastening device has a support spoke that extends in a radial direction of said first and said second mirror shells, and

wherein said support spoke, when projected into said plane, yields a projection that is non-parallel to said y-direction.

23. (new) The projection exposure system of claim 22, wherein said first mirror shell and said second mirror shell each comprise a mirror segment having an optical surface area.

24. (new) The projection exposure system of claim 22, wherein said support spoke has a shape tapering in a radial direction towards said common rotational axis.

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25. (new) The projection exposure system of claim 22, wherein said support spoke comprises grooves into which said first mirror shell and said second mirror shell are embedded.

26. (new) The projection exposure system of claim 22, wherein said support spoke tapers in a direction of said common rotational axis towards said plane.

27. (new) The projection exposure system of claim 22,
wherein said spoke is one of a plurality of spokes, and
wherein at least one spoke of said plurality of spokes extends parallel to said x-direction
when said plurality of spokes are projected into said plane.

28. (new) The projection exposure system of claim 27, wherein said plurality of support spokes includes (i) a first support spoke made of a material having a first thermal expansion coefficient, and (ii) a second support spoke made of a material having a second thermal expansion coefficient that is different from said first thermal expansion coefficient.

29. (new) The projection exposure system of claim 22, wherein said projection exposure system further comprises an optical element having a plurality of raster elements, wherein said optical element is arranged substantially in said plane.

30. (new) The projection exposure system of claim 29, wherein said projection is non-parallel to said x-direction and intersects said plurality of raster elements at different locations on said plurality of raster elements.

31. (new) The projection exposure system of claim 30, further comprising:
a mask; and
a projection lens for projecting said mask onto a light-sensitive object.

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32. (new) A method for producing a microelectronic component, comprising employing the projection exposure system of claim 31.

33. (new) A collector, comprising:

a first mirror shell; and

a second mirror shell within said first mirror shell,

wherein said first and second mirror shells have a common rotational axis,

wherein said first mirror shell and said second mirror shell are fastened by a fastening device having a support spoke, and

wherein said support spoke is of a material having a thermal expansion coefficient that provides a substantially rotational symmetric expansion of said first mirror shell and said second mirror shell under a thermal load.

34. (new) The collector of claim 33, further comprising a temperature-altering device that provides for a substantially equal deformation in shape of said first mirror shell and said second mirror shell.

35. (new) A collector for a projection exposure system, comprising:

a first mirror shell; and

a second mirror shell within said first mirror shell,

wherein said first and second mirror shells have a common rotational axis,

wherein said first mirror shell and said second mirror shell are fastened by a fastening device having a support spoke, and

wherein said support spoke is of a material with a thermal expansion coefficient that provides for a substantially equal deformation in shape of said first mirror shell and said second mirror shell.

36. (new) A collector, comprising:

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a first mirror shell; and
a second mirror shell,
wherein said collector transmits light having a wavelength ≤ 193 nm, and
wherein said transmission of light is different for said first mirror shell and said second mirror shell.

37. (new) The collector of claim 36, wherein said first mirror shell comprises a first coating and said second mirror shell comprises a second coating that is different from said first coating.

38. (new) The collector of claim 36,
wherein said collector receives said light on an object-side of said collector, and further comprises a filter element situated on said object-side,
wherein said filter element has a first transmission for light entering said first mirror shell, and a second transmission for light entering said second mirror shell, and
wherein said first transmission is different from said second transmission.

39. (new) The collector of claim 36,
wherein said collector emits said light from an image side of said collector, and further comprises a filter element situated on said image side,
wherein said filter element has a first transmission for light emerging from said first mirror shell, and a second transmission for light emerging from said second mirror shell, and
wherein said first transmission is different from said second transmission.

40. (new) A collector for a projection exposure system, comprising a mirror shell fastened by a fastening device at an isothermal point of fixation.

41. (new) A collector for a projection exposure system, comprising:

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a mirror shell having a rigidity $C_{\text{mirror shell}}$,

wherein said mirror shell is fastened to a fastening device via a connection having a rigidity

$C_{\text{fastening part-mirror shell}}$, and

wherein $C_{\text{fastening part-mirror shell}} < C_{\text{mirror shell}}$.

42. (new) A collector for a projection exposure system, comprising:

a mirror shell being rotational symmetric around an axis,

wherein said mirror shell is fastened by a fastening device having an active component that provides for a substantially ring-shaped form of said mirror shell if a temperature changes.